

ANNUAL STORMWATER POLLUTION PREVENTION PLANNING (SWPPP) TRAINING



June 2012

Advanced Module



Why do you have to be here?



- Because your facility operates under a **General Discharge Permit for Stormwater Associated with Industrial Activities**.
 - "General Discharge Permit"

2

Why do you have to be here?



More specifically:

- Under 2d of **Section E** of Frederick County's **Municipal Separate Storm Sewer System (MS4)** Permit the County must identify all county-owned facilities requiring a **NPDES discharge permit** and submit documentation that a permit has been obtained for each facility.

3

2 options for County Ind. Facilities



- All County owned "industrial facilities" must submit a Notice of Intent (NOI) that a permit has been applied for or apply for **No Exposure Certification**
- All permitted facilities not eligible for No Exposure Certification must then develop a **Stormwater Pollution Prevention Plan (SWPPP)**.

4

No Exposure?

- No exposure of any of the operations at the facility to PRECIPITATION.

C. Exposure Checklist		
Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (8), you are not eligible for the no exposure exclusion.		
1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	Yes	No
2. Materials or residuals on the ground or in storm water intake from spills/leaks	<input type="checkbox"/>	<input type="checkbox"/>
3. Materials or products from past industrial activity	<input type="checkbox"/>	<input type="checkbox"/>
4. Material handling equipment	<input type="checkbox"/>	<input type="checkbox"/>
5. Materials or products during loading/unloading or transporting activities	<input type="checkbox"/>	<input type="checkbox"/>
6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	<input type="checkbox"/>	<input type="checkbox"/>
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	<input type="checkbox"/>	<input type="checkbox"/>
8. Materials or products handled/stored on roads or railways owned or maintained by the discharger	<input type="checkbox"/>	<input type="checkbox"/>
9. Waste material (except waste in covered, non-leaking containers)	<input type="checkbox"/>	<input type="checkbox"/>
10. Application or disposal of process wastewater (unless otherwise permitted)	<input type="checkbox"/>	<input type="checkbox"/>
11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	<input type="checkbox"/>	<input type="checkbox"/>

5

Industrial Activities? Who me!?

- transportation facilities
 - (but only those who do vehicle maintenance)
- sewage treatment plants designed for over 1.0 MGD
- landfills
- recycling facilities
- etc.
- Considered INDUSTRIAL....

6

14 Industrial Frederick County Facilities

- 14 county facilities covered by a permit
- 1 was able to get no-exposure certified.
 - Green Valley Fire-Rescue Station
- The remaining 13 have developed SWPPPs
 - **Fleet Maintenance:** LEC, TransIT, FCPS Hayward Rd, 331 Montevue,
 - Satellite yards: Johnsville, Thurmont, Urbana, Myersville, Jefferson
 - **WWTPs:** Ballenger Creek, New Market, Jefferson
 - **Landfill:** Reichs Ford

7

Versar's 2011-2012 Audit



- 6 month audit to identify all County industrial facilities & get them into compliance
- Versar and Sustainability & Environmental Resources Office wrote 13 SWPPPs.
- Culminated in an EPA audit in May!

8

What is stormwater?



- Stormwater is defined as precipitation runoff, surface runoff and drainage, street runoff and snow melt runoff.

11

What's Wrong With This Picture?



10

What's Wrong With This Picture?



11

Typical Stormwater Pollutants

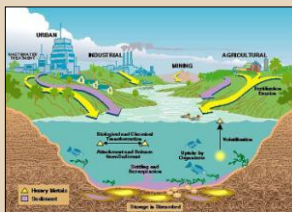
- Petroleum (oil, grease)
- Cooking grease/oils
- Sediment (soil)
- Salt
- Trash and debris
- De-icing fluids and coolants (glycols)
- Fertilizers, Herbicides, and Pesticides
- Fecal bacteria (pet & human feces)



12

POTENTIAL EFFECTS

- Human health
 - Direct ingestion during recreation activities
 - Food chain
- Environmental
 - Benthic invertebrates
 - Fish
 - Birds
- Aesthetics
 - Odor
 - Visual (e.g., scums, sheens, etc.)
 - Garbage



13

6 Typical Pollution Sources at Industrial Facilities

1. Loading and Unloading Operations
2. Outdoor Storage
3. Outdoor Process Activities
4. Dust or Particulate Generating Processes
5. Illicit Connections and Non-Stormwater Discharges
6. Waste Management

-EPA

14

Uh oh!

Forklift + distracted driver + 55 gallon drum = STORMWATER POLLUTION



15

ENVIRONMENTAL REGULATIONS



16

Acronyms

- MS₄ = Municipal Separate Storm Sewer System
- NPDES = National Pollutant Discharge Elimination System

17

Municipal Separate Storm Sewer System

- An MS₄ is a conveyance or system of conveyances that is:
 - Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.;
 - Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
 - Not a combined sewer; and
 - Not part of a Publicly Owned Treatment Works (sewage treatment plant).

18

NPDES

- As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program **controls water pollution** by regulating point sources that discharge pollutants into waters of the United States.
 - MS4s are considered point-sources of pollution!

19

It all starts with the CWA...sorta

- 1972 Federal Water Pollution Control Act (FWPCA)
 - No more point source pollution discharges into navigable waters!
 - It required permit to discharge wastes to public resources



20

The "real" Clean Water Act



- Law suit by NRDC against EPA in 1976 for lack of adequate effluent standards led to amendments to FWPCA

...which came to be known as the CWA of 1977!

21



CWA becomes WQA in 1987

- Water Quality Act (WQA)
- WQA treated certain **stormwater** discharges as "point source pollution"
- WQA established new schedules for **industrial & municipal stormwater** discharges into U.S. waters
- Establishes the **NPDES for stormwater**.

National Pollutant Discharge Elimination System



23



(EPA 2008)

- 1991 -The U.S. EPA starts its Stormwater Program
- 1992 – Industrial Facilities required to implement a stormwater pollution prevention program



25

Allowable Non-SW Discharges

(MD 2008 MSGP, 1.1.3)

The following are the non-stormwater discharges authorized under this permit, provided the non-stormwater component of your discharge is in compliance with Part 2.1.2.10:

- Discharges from fire-fighting activities;
- Fire hydrant flushings;
- Potable water, including water line flushings;
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizers are applied in accordance with the approved labeling;
- Pavement wash waters where no detergents are used and no toxic or hazardous materials have occurred (unless all are removed);
- Routine external building washdown that does not use process materials; and
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials; and
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

NOT MANY!

26

Are you allowed to wash this equipment outdoors?

POP QUIZ!

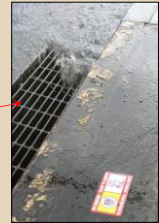


27

Stormwater Pollution Prevention Plans (SWPPP)



Oil leak at TransIT



28

What is a SWPPP?



- SWPPP = Stormwater Pollution Prevention Plan
- A site-specific, written document that:
 1. Identifies potential sources of stormwater pollution at the industrial facility;
 2. Describes stormwater control measures that are used to reduce or eliminate pollutants in stormwater discharges from the industrial facility; &
 3. Identifies procedures the operator will use to comply with the terms and conditions of the General Discharge Permit.

Sometimes called a "P2 Plan"

29

TYPICAL ACTIVITIES SUBJECT TO OVERSIGHT

Anything done outside and exposed to rain/snow:

- Fueling
- Maintaining Vehicles and Equipment
- Washing Vehicles and Equipment
- Loading and Unloading Raw Materials
- Liquid Storage in Above-Ground Tanks
- Salt Storage
- Dumpsters
- Soil/compost/sand stockpiles



30

What is a SWPPP, really?

It's really 2 things

1. The paper PLAN
1. The implementation of procedures and behaviors



31

Stormwater Pollution Prevention Plan Includes:

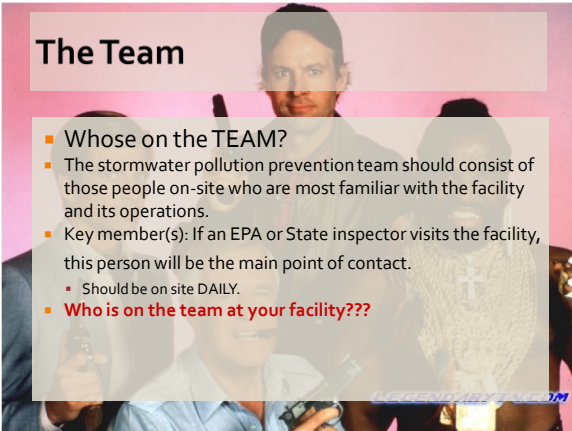
- Stormwater Pollution Prevention Team
- Site Plan
- Inventory Materials Exposed to Stormwater
- Implement Best Management Practices
- Employee Training Requirements
- Monthly Site Inspections
- Annual Site Assessment
- Spill Response Procedures



32

The Team

- Whose on the TEAM?
- The stormwater pollution prevention team should consist of those people on-site who are most familiar with the facility and its operations.
- Key member(s): If an EPA or State inspector visits the facility, this person will be the main point of contact.
 - Should be on site DAILY.
- Who is on the team at your facility???



The Team

- Are you "qualified"?
- EPA defines qualified personnel as "those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and who can also evaluate the effectiveness of control measures."

34

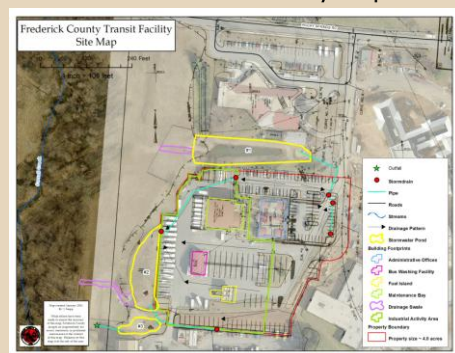
The Team

- Each member of the stormwater pollution prevention team should have ready access to either an electronic or paper copy of applicable portions of the industrial stormwater general permit and the SWPPP.

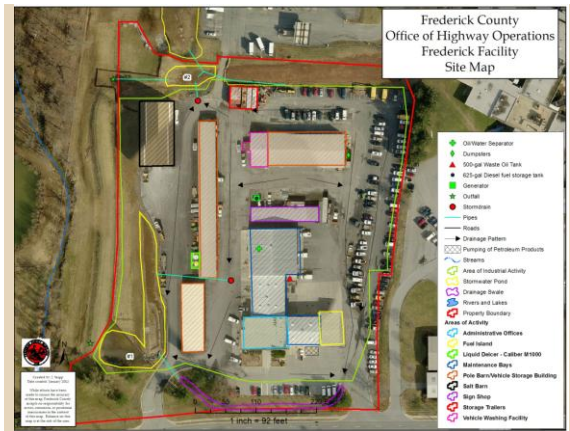
1.3 Stormwater Pollution Prevention Team	
Staff Names	Individual Responsibilities
SWPPP Team Leader #1 Bill Routhahn - Superintendent Highway Operations	<ul style="list-style-type: none"> • SWPPP team leader and emergency contact, with focus on all vehicles and equipment stored and operated on site having to do with Highway Operations, including salt team activities.
Donnie Crum, Assistant Superintendent Highway Operations	<ul style="list-style-type: none"> • Planning and supervision of all pollution prevention activities related to this SWPPP. • Custodian of SWPPP and adds records and updates as necessary as a result of major changes in the facility's design, construction, operation, or maintenance. • Does Routine and Annual Comprehensive site inspections.

5

The SPCC Plan Facility Map



36



Materials Inventory

PRODUCT	BRAND
OMNI AE Hardener	PPG
OMNI Medium Reducer	PPG
OMNI Pak Master Blend	Sherrin Williams
Oxygen Tank	Energies
P68 Primer	IPS Corporation
Painters Touch Paint	Silco
Polyurethane Sealant	Sikaflex 1A
Propane	Berna-O-matic
PVC Pipe Cement	IPS Corporation
Quik Color	Rust-O-leum
Red Grease	Berkelbile Oil
Romex MP Grease	ExxonMobil

(1) 275-gallon automotive transmission (ATF) fluid tank (indoors at truck repair shop)
 (1) 275-gallon new motor oil tank (indoors at truck repair shop)
 (1) 275-gallon hydraulic oil tank (indoors at truck repair shop)
 (1) 250-gallon waste oil tank (inside light duty repair shop)
 (1) 500-gallon used motor oil tank (outside of truck repair shop)
 (1) 625-gallon diesel (outside of diesel generator)
 (1) 8000-gallon Caliber magnesium chloride solution (outdoors adjacent to salt barn)
 (1) 5000-gallon Caliber magnesium chloride solution (outdoors adjacent to salt barn)

38

Typical Facility Best Management Practices (BMPs)

- Good Housekeeping
- Preventive Maintenance
- Visual Inspections
- Spill Prevention and Response
- Sediment and Erosion Control
- Management of Stormwater Runoff



39

"Structural" BMPs

- Double-Walled Tanks
- Secondary Containment



40

Good Housekeeping

1. EPA expects you to set an example for the private sector.
 2. EPA expects you to set an example for the private sector.
 3. EPA expects you to set an example for the private sector.
- Specific good housekeeping practices vary by facility...

41

Good Housekeeping



- Regular pickup and disposal of waste materials and scrap equipment;
- Maintenance of clean work spaces;
- Routine inspections for leaks and of the condition of tanks, vehicles and containers;
- Routine inspections to make sure that industrial materials are properly stored and labeled;
- A schedule for sweeping paved areas and floors, including who will perform the sweeping (employee or contractor);
- The individual or position responsible for emptying drip pans placed beneath leaking equipment, valves, and fill lines.

42

Employee Training

- All employees from a facility, once per year and all new hires upon entering workforce.

43

Top 10 Common Compliance Failures at Industrial Facilities



44

1. No SWPPP
2. Control measures described in SWPPP not used
3. No SWPPP on-site
4. SWPPP not signed
5. Stormwater pollution prevention team not up-to-date
6. On-site staff not familiar with SWPPP
7. Improper collection of visual assessment samples.
8. Uncovered dumpsters
9. Poor employee/contract staff training
10. Inspection or monitoring records are not kept with the SWPPP



45

PENALTIES

(2008 MD MSGP)



Civil Penalties Violations of permit conditions = fine of \$27,500 per day for each violation

Criminal Penalties

- Any person who **negligently** violates...is subject to a fine of not less than \$2,500 - \$25,000 per day of violation, or by imprisonment for not more than one (1) year, or by both.
- Any person who **knowingly** violates...is subject to a fine of not less than \$5,000 - \$50,000 per day of violation, or by imprisonment for not more than three (3) years, or by both.
- Any person who **knowingly** violates...and who knows at that time that he thereby places another person in **imminent danger of death** or serious bodily injury, is subject to a fine of not more than \$250,000 or imprisonment of not more than fifteen (15) years, or both.
 - Corporation subject to fine of \$1 Million.

46

Spill Response and Notification

47

1. Minor vs. Major Spills
2. Response and Notification



48

Minor Spills

- Minor spills are considered to be those of **less than 5-gallons** which pose no significant harm to human health or the environment and have not entered the storm sewer system, stormwater pond, water body or the groundwater table.



49

Minor Spill Response Procedures

- Stop leaks
 - Roll drums upright (hole pointing up)
 - Turn off process
 - Shut pipe valves
- Contain spills
 - Booms, pads, sand, dirt
- Divert runoff from spills away from storm drain inlets
- Patch leaks – temporary patch until a permanent solution is applied
- Recover/remove contaminated materials



50

Minor Spill Notification

- All minor spills must be documented by the SWPPP Team members or other designated personnel using the Spill/Release Incident Form (Attachment F)
- Keep the original filled spill form in the SWPPP.
 - A copy of filled spill form must be sent to the Superintendent.
 - A copy of the filled spill form is sent to MDE.

51

MDE Reporting Requirements

- COMAR 26.10.01.03
- All oil spills onto **land or water**, including oil spills from vehicles, ships, boats, or vessels of any kind, must be reported to MDE immediately by phone (but not later than **2 hours** after detection).
- MDE requires written report as well within 10 days of clean up.
- No volume threshold for reporting.

52

The form is titled 'Spill/Release Incident Form' and is part of the 'State of Maryland Department of the Environment Emergency Response Division'. It contains various fields for reporting a spill, including:

- Location of Spill/Release:** City/Town, MD County, ZIP.
- Cause of spill:** Transportation Incident, Confined on Land, Confined Storm Drain or Ditch, Confined Stormwater Pond, Confined Surface Water, Confined Airspace.
- Detailed Description:** Product Name, Quantity, Date of spill, Time of spill, Spill description, Spill location, Spill cause, Spill impact, Spill cleanup, Spill disposal.
- Signature:** Spill Reporter, Spill Cleanup, Spill Disposal.
- Notification Numbers:** MDE, Local Emergency Response Team (LERT), Fire Department, Police Department.
- Amount Spilled/Released:** Volume, Weight, Concentration.
- Cleanup Procedure:** Cleanup Method, Cleanup Date, Cleanup Time, Cleanup Location.

53

Major Spills

- Major** spill is considered an emergency. It is a spill that cannot be safely contained by staff or cleaned up and/or has made its way into the storm sewer system, stormwater pond, waterbody or groundwater table or is a threat to human health.

54

Major Spill continued

1. The discharge is large enough to spread beyond the immediate discharge area;
2. The discharged material enters a storm drain or stream, lake;
3. The discharge requires special equipment or training to cleanup; and/or
4. The discharged material poses a hazard to human health or safety.



55

CALL THE CONTRACTOR!

The county has a contract with the following emergency response contractors.

- **DFRS / Hazmat**
911 or non-emergency#
301-600-1603
- **FCC Environmental**
6305 Lombard Street, Baltimore
410-633-0606
- **Floyd E. Cline & Sons, Inc.**
3434 Brethren Church Rd, Myersville
301-293-2349



56

Major Spill Notification

- All major spills must be documented by the Stormwater Pollution Prevention Team members or other designated personnel using the Spill/Release Incident Form (Attachment F)
- SWPPP team leader or whomever is on site will contact BOTH:

1.

■ MARYLAND DEPARTMENT OF THE ENVIRONMENT
■ 1-(866) 633-4686, available on a 24-hour basis.

2.

■ NATIONAL RESPONSE CENTER
■ 1-(800) 424-8802, available on a 24-hour basis.

- Keep original filled form in the SWPPP folder.
- A copy of filled form must be sent to the Superintendent.
- A copy is mailed to MDE within ten days.

57

N.R.C. Oil Spill Reporting Requirements:

1. Violate applicable water quality standards;
2. Cause a film or "sheen" upon, or discoloration of the surface of the water or adjoining shorelines; or
3. Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines

- NRC is the federal government's centralized reporting center, which is staffed 24 hours per day by U.S. Coast Guard personnel.

58

MDE Reporting Requirements

- All oil spills onto land or water, including oil spills from vehicles, ships, boats, or vessels of any kind, must be reported to MDE immediately (but not later than 2 hours after detection).
- MDE requires both verbal and written reports.
- No volume threshold mentioned.

59

Location of Spill/Release	<p>State of Maryland Department of the Environment Emergency Response Division 1001 Washington Blvd, Suite 400 Baltimore, Maryland 21201-2121</p>	Notification Numbers
Cause of spill	<p>Product Name: _____ Container Type: _____ Transportation Incident: _____ Spill Description: _____</p>	Amount Spilled/Released
Detailed Description	<p>Responsible Party: _____ Responsible Person: _____ Responsible Phone: _____</p>	Cleanup Procedure
Signature	<p>Signature: _____ Print Name: _____ Title: _____</p>	

60

Quarterly (Routine) & Annual Site Inspections

61

SWPPP MONTHLY INSPECTIONS

General Information		
Facility Name	TransIT Services of Frederick County	
NFBES Tracking No.	MDE Permit 02SW1888	
Date of Inspection	Start/End Time	
TransIT Inspector's Name(s)	Fleet Services Inspector's Name(s)	
TransIT Inspector's Title(s)	Fleet Services Inspector's Title(s)	
TransIT Inspector's Contact Information	Fleet Services Inspector's Contact Information	
Weather Information		
Weather at time of this inspection? <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Snow <input type="checkbox"/> Fog <input type="checkbox"/> High Winds Temperature: _____		
Have any previously unidentified discharges of pollutants occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____		
Are there any discharges occurring at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____		

62

SWPPP MONTHLY INSPECTIONS

Control Measures

The structural stormwater control measures identified in your SWPPP on your site map are listed below. Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required control measures at your facility. Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

To be completed by TransIT staff			
Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (Identify needed maintenance and repairs, or any failed control measures that need replacement)
1 Stormwater Pond #1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
2 Stormwater Pond #2	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
3 Stormwater Pond #3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	

63

SWPPP MONTHLY INSPECTIONS

Areas of Industrial Materials or Activities exposed to stormwater
Below is a list of areas that should be assessed during the facility's routine inspections

Area/Activity	Inspected?	Controls Adequate (segregation, enclosure, and spillage)?	Corrective Action Needed and Notes
PUS MAINTENANCE FACILITY (to be completed by Fleet Services staff)			
1a Spills and Leaks: Is there evidence of spills/leaks (e.g., staining on ground, odor)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have any spills/leaks been recorded for this area since the last inspection? If yes, were they addressed and reported promptly?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
1b Material Exposure: Are any materials, drums, containers or parts, equipment, etc., not properly stored/secured?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is secondary containment provided for all 55 gal. drums?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
1c Used Oil Management: Are all materials properly stored/secured and stored in accordance with?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are all containers properly sealed/packaged?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have all materials been properly stored/secured?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2a Spills and Leaks: Is there evidence of spills/leaks (e.g., staining on ground, odor)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Have any spills/leaks been recorded for this area since the last inspection? If yes, were they addressed and	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Inspection by activity...

64

SWPPP MONTHLY INSPECTIONS

Non-Compliance	
Describe any incidents of non-compliance observed and not described above:	

65

SWPPP MONTHLY INSPECTIONS

Additional Control Measures
Describe any additional control measures needed to comply with the permit requirements:

66

SWPPP MONTHLY INSPECTIONS

67

SWPPP ANNUAL INSPECTIONS

- Generic form currently being customized for each facility.
- More comprehensive than quarterly form inspection.
 - Might include:
 - Integrity testing of containment vessels with results documented.
 - Suggested modifications of behaviors or stormwater BMPs to better handle recurring spills
 - Updating SWPPP to reflect changes at facility, new buildings, new activities etc.

68

SWPPP ANNUAL INSPECTIONS

- Original stays on site in the SWPPP.**
- Copies of all forms and record keeping documents must be submitted to Jessica Seipp with WMS by December 31st of each year.
- She can be reached at 301.600.1350 or jseipp@frederickcountymd.gov.

69

RECORD KEEPING...



70

Record Keeping

- Document your compliance!!!**
 - permits,
 - inspections,
 - maintenance,
 - monitoring,
 - corrective actions,
 - spills,
 - secondary containment failures,
 - trainings & curriculum
- It all must go in the on-site SWPPP!

71

Record Keeping

Collage of Violations



QUESTIONS AND ANSWERS?



74

THE END

75